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## RAW SEQUENCE LISTING

DATE: 10/12/2001

PATENT APPLICATION: US/09/828,708

TIME: 11:20:55

Input Set : A:\09-828708 Sequence Listing.txt

Output Set: N:\CRF3\10122001\I828708.raw

4 <110> APPLICANT: Ditzel, H.  
 5 Burton, D.  
 6 Schaller, M.  
 8 <120> TITLE OF INVENTION: Autoantibodies to glucose-6-phosphate isomerase and their participation in  
 9 autoimmune disease  
 11 <130> FILE REFERENCE: 1361.005US1  
 13 <140> CURRENT APPLICATION NUMBER: US 09/828,708  
 C--> 14 <141> CURRENT FILING DATE: 2001-09-24  
 16 <160> NUMBER OF SEQ ID NOS: 123  
 18 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 20 <210> SEQ ID NO: 1  
 21 <211> LENGTH: 109  
 22 <212> TYPE: PRT  
 23 <213> ORGANISM: Homo sapiens  
 25 <400> SEQUENCE: 1  
 26 Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys  
 27 1 5 10 15  
 28 Lys Ser Ser Gln Ser Val Phe Tyr Thr Ser Asn Asn Lys Asn Tyr Leu  
 29 20 25 30  
 30 Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr  
 31 35 40 45  
 32 Trp Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Ser Gly Ser  
 33 50 55 60  
 34 Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu  
 35 65 70 75 80  
 36 Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Asp Ser Tyr Thr Phe  
 37 85 90 95  
 38 Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala  
 39 100 105  
 41 <210> SEQ ID NO: 2  
 42 <211> LENGTH: 104  
 43 <212> TYPE: PRT  
 44 <213> ORGANISM: Homo sapiens  
 46 <400> SEQUENCE: 2  
 47 Pro Ser Phe Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys  
 48 1 5 10 15  
 49 Arg Ala Ser Gln Gly Ile Ser Ser Tyr Leu Ala Trp Tyr Gln Leu Lys  
 50 20 25 30  
 51 Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr Ala Ala Ser Thr Leu Gln  
 52 35 40 45  
 53 Ser Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe  
 54 50 55 60  
 55 Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr  
 56 65 70 75 80  
 57 Cys Gln Gln Leu Asn Ser Tyr Pro Leu Thr Phe Gly Gly Gly Ala Lys  
 58 85 90 95  
 59 Val Gly Ile Arg Arg Thr Val Ala

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Input Set : A:\09-828708 Sequence Listing.txt

Output Set: N:\CRF3\10122001\I828708.raw

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60          100
62 <210> SEQ ID NO: 3
63 <211> LENGTH: 105
64 <212> TYPE: PRT
65 <213> ORGANISM: Homo sapiens
67 <400> SEQUENCE: 3
68 Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys
69 1          5          10          15
70 Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln
71          20          25          30
72 Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg
73          35          40          45
74 Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
75          50          55          60
76 Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
77 65          70          75          80
78 Tyr Cys Gln Gln Tyr Gly Ser Ser Pro Arg Thr Phe Gly Gln Gly Thr
79          85          90          95
80 Lys Val Glu Ile Lys Arg Thr Val Ala
81          100          105
83 <210> SEQ ID NO: 4
84 <211> LENGTH: 109
85 <212> TYPE: PRT
86 <213> ORGANISM: Homo sapiens
88 <400> SEQUENCE: 4
89 Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys
90 1          5          10          15
91 Lys Ser Ser Gln Ser Val Phe Tyr Thr Ser Asn Asn Lys Asn Tyr Leu
92          20          25          30
93 Ala Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr
94          35          40          45
95 Trp Ala Ser Thr Arg Glu Ser Gly Val Pro Asp Arg Phe Ser Gly Ser
96          50          55          60
97 Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu
98 65          70          75          80
99 Asp Val Ala Val Tyr Tyr Cys Gln Gln Tyr Tyr Asp Ser Tyr Thr Phe
100          85          90          95
101 Gly Gln Gly Thr Lys Leu Glu Ile Lys Arg Thr Val Ala
102          100          105
104 <210> SEQ ID NO: 5
105 <211> LENGTH: 105
106 <212> TYPE: PRT
107 <213> ORGANISM: Homo sapiens
109 <400> SEQUENCE: 5
110 Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Gly Ala Thr Leu Ser Cys
111 1          5          10          15
112 Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln
113          20          25          30
114 Arg Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg

```

## RAW SEQUENCE LISTING

DATE: 10/12/2001

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Input Set : A:\09-828708 Sequence Listing.txt

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115          35          40          45
116 Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
117          50          55          60
118 Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Thr Gly Thr Tyr
119 65          70          75          80
120 Tyr Cys Gln Gln Tyr Asp Asn Val Pro Asp Thr Phe Gly Gln Gly Thr
121          85          90          95
122 Arg Leu Glu Ile Lys Arg Thr Val Ala
123          100          105
125 <210> SEQ ID NO: 6
126 <211> LENGTH: 104
127 <212> TYPE: PRT
128 <213> ORGANISM: Homo sapiens
130 <400> SEQUENCE: 6
131 Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Gly Ala Thr Leu Ser Cys
132 1          5          10          15
133 Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln
134          20          25          30
135 Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg
136          35          40          45
137 Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
138          50          55          60
139 Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
140 65          70          75          80
141 Tyr Cys Gln Gln Tyr Gly Thr Ser Pro Leu Phe Gly Gln Gly Thr Arg
142          85          90          95
143 Leu Glu Ile Lys Arg Thr Val Ala
144          100
146 <210> SEQ ID NO: 7
147 <211> LENGTH: 105
148 <212> TYPE: PRT
149 <213> ORGANISM: Homo sapiens
151 <400> SEQUENCE: 7
152 Pro Gly Thr Leu Ser Leu Ser Pro Gly Glu Arg Val Thr Leu Ser Cys
153 1          5          10          15
154 Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln
155          20          25          30
156 Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg
157          35          40          45
158 Ala Thr Gly Ile Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp
159          50          55          60
160 Phe Thr Leu Thr Ile Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr
161 65          70          75          80
162 Tyr Cys Gln Gln Tyr Gly Ser Ser Pro Arg Thr Phe Gly Gln Gly Thr
163          85          90          95
164 Lys Val Glu Ile Lys Arg Thr Val Ala
165          100          105
167 <210> SEQ ID NO: 8
168 <211> LENGTH: 112

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## RAW SEQUENCE LISTING

DATE: 10/12/2001

PATENT APPLICATION: US/09/828,708

TIME: 11:20:55

Input Set : A:\09-828708 Sequence Listing.txt

Output Set: N:\CRF3\10122001\I828708.raw

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169 <212> TYPE: PRT
170 <213> ORGANISM: Homo sapiens
172 <400> SEQUENCE: 8
173 Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Lys Leu Ser Cys Ala
174 1 5 10 15
175 Ala Ser Gly Phe Thr Phe Ser Ser His Gly Ser His Trp Val Arg Gln
176 20 25 30
177 Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Leu Leu Ser Ser Asp Gly
178 35 40 45
179 Ser Asn Lys Phe Tyr Ile Glu Ser Val Lys Gly Arg Phe Thr Ile Ser
180 50 55 60
181 Lys Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
182 65 70 75 80
183 Ile Asp Asp Thr Ala Val Tyr Tyr Cys Ala Ile Ser Leu Val Gly Thr
184 85 90 95
185 Thr Ala Phe Asn Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
186 100 105 110
188 <210> SEQ ID NO: 9
189 <211> LENGTH: 100
190 <212> TYPE: PRT
191 <213> ORGANISM: Homo sapiens
193 <400> SEQUENCE: 9
194 Gly Gly Gly Val Val Gln Ala Trp Arg Ser Leu Arg Leu Ser Cys Val
195 1 5 10 15
196 Ala Ser Gly Phe Thr Phe Ser Ser His Thr Met His Trp Val Arg Gln
197 20 25 30
198 Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Leu Leu Thr Met Asp Arg
199 35 40 45
200 Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Leu
201 50 55 60
202 Ser Ser Leu Arg Pro Glu Asp Thr Ala Val Tyr Tyr Cys Thr Asn Ser
203 65 70 75 80
204 Glu Val Gly Ala Thr Ala Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val
205 85 90 95
206 Thr Val Ser Ser
207 100
209 <210> SEQ ID NO: 10
210 <211> LENGTH: 101
211 <212> TYPE: PRT
212 <213> ORGANISM: Homo sapiens
214 <400> SEQUENCE: 10
215 Gly Gly Gly Val Val Gln Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala
216 1 5 10 15
217 Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Phe His Trp Val Arg Gln
218 20 25 30
219 Ala Pro Gly Lys Gly Leu Glu Trp Val Ala Val Ile Ser Tyr Asp Gly
220 35 40 45
221 Asn Lys Lys Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
222 50 55 60

```

## RAW SEQUENCE LISTING

DATE: 10/12/2001

PATENT APPLICATION: US/09/828,708

TIME: 11:20:55

Input Set : A:\09-828708 Sequence Listing.txt

Output Set: N:\CRF3\10122001\I828708.raw

```

223 Lys Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg
224 65                               70                               75                               80
225 Val Glu Asp Thr Ala Val Tyr Tyr Cys Ala Ile Ser Ile Val Gly Thr
226                               85                               90                               95
227 Thr Ala Phe Asn Tyr
228                               100
230 <210> SEQ ID NO: 11
231 <211> LENGTH: 114
232 <212> TYPE: PRT
233 <213> ORGANISM: Homo sapiens
235 <400> SEQUENCE: 11
236 Gly Ala Glu Val Arg Lys Pro Gly Thr Ser Val Arg Ile Ser Cys Arg
237 1                               5                               10                               15
238 Ala Ser Gly Asn Thr Phe Thr Gly His Ile His Trp Val Arg Gln
239                               20                               25                               30
240 Ala Pro Gly Gln Gly Leu Gln Trp Met Gly Arg Ile Asn Pro Thr Gly
241                               35                               40                               45
242 Gly Gly Val Ser Leu Ala Gln Ser Phe Gln Asp Arg Val Ser Leu Thr
243                               50                               55                               60
244 Arg Asp Arg Ser Ser Asn Thr Val Phe Leu Glu Leu Ser Gly Leu Thr
245 65                               70                               75                               80
246 Glu Glu Asp Thr Ala Leu Tyr Phe Cys Ala Arg Pro Arg Phe Asn Met
247                               85                               90                               95
248 Ile Arg Glu Pro Leu Asp Leu Trp Gly Gln Gly Thr Val Val Thr Val
249                               100                               105                               110
250 Ser Ser
253 <210> SEQ ID NO: 12
254 <211> LENGTH: 116
255 <212> TYPE: PRT
256 <213> ORGANISM: Homo sapiens
258 <400> SEQUENCE: 12
259 Gly Gly Gly Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala
260 1                               5                               10                               15
261 Thr Ser Gly Phe Ile Phe Asn Ser Tyr Ala Met Asn Trp Val Arg Gln
262                               20                               25                               30
263 Ala Pro Gly Lys Gly Leu Glu Trp Val Ser Arg Ile Ser Gly Asn Ser
264                               35                               40                               45
265 Gly Ser Thr Phe Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser
266                               50                               55                               60
267 Arg Asp Asn Ser Lys Asn Thr Ala Phe Leu Arg Met Asn Ser Gln Arg
268 65                               70                               75                               80
269 Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys Asp Leu Ser Ser Gly
270                               85                               90                               95
271 Ala Tyr Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val
272                               100                               105                               110
273 Thr Val Ser Ser
274                               115
276 <210> SEQ ID NO: 13
277 <211> LENGTH: 114

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VERIFICATION SUMMARY

PATENT APPLICATION: US/09/828,708

DATE: 10/12/2001

TIME: 11:20:57

Input Set : A:\09-828708 Sequence Listing.txt

Output Set: N:\CRF3\10122001\I828708.raw

L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date